TENNECO OPENS CHINA COMMERCIAL VEHICLE RESEARCH AND DEVELOPMENT FACILITY

Hanover, Germany, September 23, 2014 – Tenneco Inc. (NYSE:TEN) today announced the opening of a new Clean Air research, development and manufacturing facility in China. The new wholly-owned facility, based in Kunshan near Shanghai, will design, develop and manufacture emission control products and technologies for Tenneco’s growing commercial truck business in China.

The Kunshan facility will also serve the company’s commercial truck and off-highway equipment business throughout the Asia Pacific region, and will be Tenneco’s center for designing and developing large engine solutions for Asia marine, locomotive and stationary applications.

The Kunshan facility sets a new standard in the region for emission control engineering centers with leading-edge engineering, testing and prototyping capabilities, as well as advanced mechatronics and systems integration laboratories. The facility’s capabilities include robust system design and analysis, modeling, controls simulation, acoustic analysis and predictive tools development including CFD simulation, engine application development for locomotive, marine and stationary engines, and hardware and testing capabilities including two marine engine dynamometers.

“I am extremely proud of our newest research and development center to serve this growing market with state-of-the-art engineering capabilities and a focus on developing China specific solutions, said Gregg Sherrill, chairman and CEO, Tenneco. “Our engineering know-how, global regulatory expertise, and capabilities in systems integration are driving Tenneco’s success in serving our customers with innovative, cost-effective aftertreatment solutions.”

The 10,200-square meter facility, located 60km from Shanghai, currently has 150 employees including 120 engineering and testing personnel. Once fully operational, the facility is expected to employ about 400 people.

Kunshan is also the manufacturing location for Tenneco’s XNOx™ Selective Catalytic Reduction (SCR) technology for commercial vehicle applications in China and the Asia Pacific region. XNOx™ Air Assisted Selective Catalytic Reduction (SCR) is a system developed for the China market, featuring a compact and integrated tank, controller and pump assembly. The design is readily adapted to the existing muffler box space to lower costs and facilitate vehicle integration. It is compliant with Euro V and China National Stage V regulations and provides an economical alternative to airless SCR.

Tenneco is a leading supplier to the global commercial truck and off-highway markets with a full suite of aftertreatment solutions tailored to any engine size or powertrain strategy, and designed to meet increasingly stringent emission standards taking effect worldwide. In China, Tenneco’s
commercial engine and truck customers include Weichai, FAW, China National Heavy Truck Company (CNHTC), Dalian Diesel, JND, Shanghai Diesel Engine Co. and YuChai. The company also serves customers in North America, Europe, Brazil, India, South Korea, and Japan.

**About Tenneco**

Tenneco is a $8 billion global manufacturing company with headquarters in Lake Forest, Illinois and approximately 26,000 employees worldwide. Tenneco is one of the world’s largest designers, manufacturers and marketers of clean air and ride performance products and systems for the automotive and commercial vehicle original equipment markets and the aftermarket. Tenneco’s principal brand names are Monroe®, Walker®, XNOx™ and Clevite®Elastomer.

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TENNECO TO PRESENT INNOVATIVE CLEAN AIR AND RIDE PERFORMANCE TECHNOLOGIES FOR COMMERCIAL VEHICLES AT IAA 2014

Company showcases solutions designed to reduce fuel consumption; enhance vehicle performance

Lake Forest, Illinois, August 25, 2014 –Tenneco Inc. (NYSE:TEN) will highlight its complete suite of advanced commercial vehicle Clean Air solutions and lightweight Ride Performance technologies at the IAA Commercial Vehicles Show, Hall 16, Stand C10, in Hanover, Germany, September 25-October 2, 2014.

“Delivering improved vehicle performance and reduced emissions are at the core of Tenneco’s strategy for technology leadership,” said Tim Jackson, Tenneco Chief Technology Officer. “The innovations being shown at IAA demonstrate how Tenneco is working with customers to provide advanced solutions that are lightweight, easy to package and reduce fuel consumption without compromising performance.”

Tenneco’s systems integration expertise is another critical element of the company’s cooperation with its customers on both Clean Air and Ride Performance solutions. Tenneco adapts its technologies to fit the needs of customers anywhere in the world based on emissions regulation targets and road conditions.

Located in Hall 16, Stand C10, Tenneco will exhibit these and other advanced technologies:

**Clean Air Technologies**

**XNOx™ Urea Selective Catalytic Reduction (SCR)** combines Tenneco’s expertise in calibrating urea dosing systems with top-performing components such as the company’s patented XNOx injector to deliver an optimized solution with more than 95 percent NOx conversion efficiency, helping Tenneco’s global customers to meet increasingly stringent NOx emission standards while delivering the engine performance that consumers expect.

**XNOx™ Air-Assisted Selective Catalytic Reduction (SCR)** is a Euro V compliant system developed for emerging markets, which provides an economical alternative to traditional SCR. The tank, controller and pump form a compact unit while the right balance of air and urea produces an atomized spray, which achieves high NOx conversion rates even in compact exhaust systems.

**Tenneco’s Compact Mixing** solution features a proprietary swirl-pipe mixing technology to efficiently convert injected urea droplets into the desired ammonia without the formation of deposits, especially in low temperature applications. This compact mixing device is of particular importance for SDPF applications where SCR catalyst and particulate filtration is combined into one component, which can reduce the overall size and packaging of the aftertreatment system.
Waste Heat Recovery. Tenneco is developing several technologies to improve overall vehicle efficiency by recycling wasted energy. The company's **Heat-to-Heat Systems** enable reduced fuel consumption by transferring exhaust heat to fluids of the powertrain system, allowing for quicker vehicle warm-ups. The company’s **Thermoelectric Generator (TEG)** solution enables the conversion of wasted exhaust heat to electrical energy, potentially for powering electrical accessories.

Modular Manifold. Tenneco produces single-wall manifolds as well as double-wall air gap insulated manifolds. These provide significant advantages in terms of emissions reduction, weight, cost, durability and packaging when compared with cast manifolds. Modular manifolds have a simplistic design, which allows many applications to be covered by a few components.

Ride Performance

**Monroe Intelligent Suspension** is a portfolio of advanced suspension systems which can enhance the stability of light commercial vehicles such as business luxury vans. Shock absorbers and struts continuously adjust to changing road conditions and driving situations to deliver better vehicle handling and greater ride comfort. A suite of technologies are in production or development that can be tailored to cabin, chassis or seat suspension systems to meet heavy duty commercial vehicle customer needs.

Axle Dampers

**45mm Axle Dampers** are used primarily for vehicles with a gross vehicle weight (GVW) greater than 15 tons and on trailers. Tenneco’s newly developed valve system offers increased tunability to meet customer specifications. It also allows higher compression damping forces and maintains the excellent lifetime performance typical of Tenneco dampers. These very compact 45mm dampers can cover both on-road and off-road applications such as tractors, trailers and rigid multi-axle trucks. Tenneco also offers other damper sizes to meet application requirements.

Integrated Front Suspension (IFS) is a cost-effective way of integrating air springs with 45mm axle dampers. This provides significant weight reduction on the front suspension and improves overall ride comfort.

Cabin Dampers

Tenneco offers a full range of **Cabin Suspension Systems**, including coil spring cabin dampers, air spring cabin dampers and lateral cabin dampers.

Integrated Height Valve (IHV) is a newly developed air spring damper module for continuous leveling of truck cabins. The unit’s regulator valve is integrated into the module. This more compact solution simplifies the installation and reduces assembly time and cost during manufacturing and servicing. This modular solution can be adapted for any on- or off-road application.
**Seat Dampers**

Adjustable Seat Dampers are used in seats for both on-road and off-road heavy duty vehicles. Depending on the road conditions and the driver’s own preferences, the damping level can be changed to achieve optimum comfort.

Lightweight Seat Dampers are an example of how Tenneco leverages lightweight materials including aluminum, plastic and high strength steel combined with innovative designs to reduce component weight and contribute to reducing the vehicle’s CO2 footprint.

**Velocity Progressive Damping (VPD)** is unique in that low damping forces are generated at low velocity for comfort, whereas at higher velocities the damping will progressively increase to avoid bigger movements. This leads to improved comfort for the driver without the need to manually adjust the damping force.

**Elastomer Technologies**

Lightweight Torque Rods deliver high performance and fatigue life while minimizing vehicle mass. Multiple construction options are available, and Tenneco’s innovative rod designs help customers meet performance targets with simple, low mass solutions.

**Innovative Spring Eye Bushing Solutions** are part of Tenneco’s Clevite® brand, which has been manufacturing elastomer suspension bushings since 1947. Spring eye bushings serve as key suspension pivots in vehicles with leaf spring suspensions. Tenneco has developed new designs aimed at reducing mass while improving bushing function and fatigue life. The latest bushings feature high radial and conical (cardanic) spring rate paired with low torsional breakaway to produce pivots ideally suited for optimal suspension performance.

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TENNECO SHOWCASES CLEAN AIR TECHNOLOGIES DESIGNED TO MEET AND EXCEED EURO VI EMISSIONS REQUIREMENTS

Hanover, Germany. September 23, 2014 – Tenneco is showcasing its full suite of commercial vehicle clean air technologies designed for Euro VI emissions regulations during the IAA Commercial Vehicles Show, Hall 16, Stand C10, in Hanover, Germany, September 25 - October 2, 2014. At the show, the company is demonstrating how its range of diesel aftertreatment technologies, combined with full systems integration expertise and advanced thermal management technologies, including waste heat recovery technologies, can deliver reduced fuel consumption, weight reduction and operating benefits in addition to meeting Euro VI compliance targets.

“Tenneco’s clean air solutions have been designed to go beyond Euro VI requirements to deliver optimized system performance that deliver consistent in-use compliance and reduced fuel consumption through the use of advanced technology,” said Ben Patel, vice president, global research & development and systems integration, Tenneco Clean Air Division. “In addition to meeting Euro VI emissions requirements, there is growing demand for robust aftertreatment systems that are compliant under real world driving cycles and also help deliver improved overall fuel economy.”

Euro VI regulations increase the focus on criteria pollutants, tighter certification cycles, and require consistent compliance in real-world driving conditions, all of which demand a more robust, system-oriented approach to aftertreatment. Tenneco’s Euro VI solutions begin with proven aftertreatment components including its diesel oxidation catalyst (DOC) and diesel particulate filter (DPF) technologies and Tenneco’s proprietary liquid urea SCR system, XNOx™, with advanced spray quality which helps optimize SCR conversion efficiency.

Tenneco’s full systems integration capabilities support enhanced fuel economy and aftertreatment performance through weight reduction, optimized thermal management and efficient system design. Tenneco’s proprietary compact mixing technologies deliver high ammonia uniformity to the SCR catalyst while reducing packaging space requirements and overall system weight. Modular fabricated manifolds offer significant benefits in weight and packaging compared with traditional cast manifolds, and air gap pipe provides thermal advantages for faster catalyst light off and low temperature SCR applications.

Additional fuel efficiency can be attained through recovering and recycling the exhaust system’s waste heat. Tenneco is developing several waste heat recovery solutions, including – waste heat recovery products which can be integrated into Rankine Cycle systems, which have the potential to reduce vehicle operating expenses by helping improve fuel economy.

Tenneco Inc. (NYSE: TEN) is a global leader in commercial vehicle aftertreatment technologies and systems. Its clean air global engineering centers in Edenkoben, Germany; Grass Lake, Michigan, USA and Kunshan, China support the design, testing and development of advanced...
systems for commercial vehicle, locomotive, marine and stationary engine customers throughout the world. Tenneco operates 62 clean air manufacturing facilities throughout the world, including 20 in Europe, 24 in Asia Pacific and 14 in North America.

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TENNECO PROVIDES ADVANCED LIGHTWEIGHT, COST-EFFECTIVE SUSPENSION SOLUTIONS FOR THE GLOBAL COMMERCIAL VEHICLE MARKET

Company’s ride performance and elastomer solutions help improve comfort and reduce fleet operating costs

Hanover, Germany, September 23, 2014 – Tenneco (NYSE:TEN) today unveiled its latest developments in advanced suspension technologies at the 2014 IAA Commercial Vehicle Show (Hall 16, Stand C10). The company is leveraging its expertise in innovative ride performance solutions and systems integration for passenger cars to create advanced solutions for the world’s commercial vehicle manufacturers.

"Tenneco's complete portfolio of axle, cabin and seat suspension applications and elastomers for heavy duty and light commercial vehicles are designed to provide enhanced ride performance, comfort and optimized vehicle life while helping reduce fleet operating costs," said Sandro Paparelli, vice president and general manager, Ride Performance Europe. "Our global manufacturing footprint combined with our experience in design, engineering and systems integration, enables us to deliver cost-effective solutions globally that improve vehicle performance, comfort and durability."

Tenneco’s advanced design and application engineering capabilities leverage technology expertise to meet the requirements of commercial vehicle customers in terms of product configuration, road conditions, industrialization and cost.

Intelligent Suspension Helps Improve Ride Comfort
Tenneco applies its CVSA (continuously variable semi-active suspension) technology to light commercial vehicles for passenger transport. The shock absorbers continuously adjust to deal with rapidly changing road conditions and driving situations such as cornering, accelerating and braking. They provide enhanced stability and ride performance for a higher level of comfort as well as a more secure feeling.

To increase driver comfort in commercial vehicles, Tenneco has developed Velocity Progressive Damping (VPD). Low damping forces are generated at low velocity for comfort, whereas at higher velocities the damping will progressively increase to avoid bigger movements. This leads to improved comfort for the driver without the need to manually adjust the damping force.

Lighter Weight Products Help Reduce Operating Costs
The development of innovative advanced solutions to reduce vehicle weight can help fleet owners reduce operating costs. Tenneco works with customers to develop lightweight and easy to package products and solutions that help reduce fuel consumption without compromising performance. Light weight products include aluminum, plastic and high strength steel seat
dampers, applied in several new light commercial vehicle models today and showcased at IAA 2014.

Tenneco’s Integrated Front Suspension (IFS) is a cost-effective way of integrating air springs with 45mm axle dampers. This provides significant weight reduction on the front suspension and improves overall ride comfort. Lightweight Seat Dampers are another example of how Tenneco leverages lightweight materials combined with innovative designs to reduce component weight.

Integrated Height Valve (IHV) is a newly developed air spring damper module which continuously levels truck cabins. The unit’s regulator valve is integrated into the module for a more compact solution to simplify installation and reduce assembly time and cost during manufacturing and servicing. This modular solution can be adapted for any on- or off-road application.

**NVH Solutions**

Tenneco’s Clevite® Elastomer products for commercial vehicles help customers meet performance targets while minimizing vehicle mass with innovative rod designs:

- Controlled Torque Technology allows customers to specify elastomer suspension bushings that provide good noise vibration harshness (NVH) isolation combined with a low or no torsional parasite rate. A free-spinning inner component allows springs and dampers to perform more efficiently.

- Lightweight Torque Rods deliver high performance and longer product life while minimizing vehicle mass.

- New innovative Spring Eye Bushing solutions reduce mass and improve bushing function and life.

- Hydroelastic Mounts and Bushings provide extremely high levels of targeted damping to eliminate vibrations in the vehicle and deliver excellent durability and increased driver comfort.

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